Middleberg Riddle & Gianna

Attorneys and Counselors

Suite 1600
2323 Bryan Street
Dallas, Texas 75201
(214) 220-6300
(214) 263-6423 (Metro)
(214) 220-3189 (Telecopier)
(214) 220-6334 (Direct Dial)

Richard S. Wilensky
Of Counsel

February 28, 1995

ET 94-124

Via Federal Express

Office of the Secretary
Federal Communications Commission
Washington, D. C. 20554

Dear Sir or Madam:

Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415 and 1.419, enclosed herein is an original and nine (9) copies of the Reply Comments of ComTech Associates, Inc.

If you need any additional information, please feel free to call me at the telephone number referenced above.

Sincerely,

Richard S. Wilensky

RSW/nh
A5013005
Enclosure

Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, DC 20554

In the Matter of	)	
	)	
Amendment of parts 2 and 15 of the	)	
Commission's Rule to Permit Use of	)	ET Docket No. 94-124
Radio Frequencies Above 40 GHz for	)	RM - 8308
New Radio Applications	)	

REPLY COMMENTS OF COMTECH ASSOCIATES, INC.

Richard S. Wilensky
Middleberg, Riddle & Gianna
2323 Bryan Street, Suite 1600
Dallas, Texas
214/220-6334

Its Attorney

February 28, 1995

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Amendment of parts 2 and 15 of the	)	
Commission's Rule to Permit Use of	)	ET Docket No. 94-124
Radio Frequencies Above 40 GHz for	)	RM - 8308
New Radio Applications	)	

REPLY COMMENTS OF COMTECH ASSOCIATES, INC.

ComTech Associates, Inc. ("ComTech") by its attorneys, hereby files reply comments in response to the Notice of Proposed Rulemaking ("NPRM") in the above-referenced proceeding.

SUMMARY

ComTech does not believe that the allocation of the Local Multipont Distribution Service ("LMDS") to the 40.5 - 42.5 GHz ("40 GHz) band is a "win-win approach," the conclusion of several Fixed-Satellite Service ("FSS") proponents. A CellularVision study projects that LMDS system costs at 40 GHz would increase by a factor of 30-40 times, making the system uneconomical at the 40 GHz band.[1] FSS proponents disagree, but have not based their costs estimates on actual LMDS operations or equipment purchases, as has CellularVision.

Given that the allocation to the 40 GHz band may destroy the domestic LMDS industry, the Commission should carefully weigh the benefit to the public of the competing services. LMDS is in commercial service; LMDS will effectively compete with cable and video distribution business; and a number of foreign countries have granted LMDS licenses in the 28 GHz band, thereby creating U. S. manufacturing jobs and exports. FSS, on the other hand, is not in commercial operation, and its commercial viability is not assured; further FSS may be more than ten (10) years from commercial operation. In the final analysis, the value of a given service is reflected in market valuations. Opening

---

[1] Comments of CellularVision, ET Docket No. 94-124, January 30, 1995, Appendix 2 ("CellularVision Comments").

the 28 GHz and 40 GHz spectrums to competitive auctions by both LMDS and FSS proponents would resolve the issue fairly and possibly allow both services to flourish.

1. Cost Estimates of FSS Proponents Are Conclusory and Self-Serving. CellularVision has based its estimate on the thirty (30) to forty (40) fold-increase in capital costs associated with a 40 GHz system on its actual operating results in New York City. FSS proponents, on the other hand, have based their cost estimates on laboratory tests, at best, or at worst on unfounded speculation. Two examples illustrate the different approaches.

In connection with reflection and defraction, CellularVision has demonstrated that service to subscribers who are not in line-of-sight to an LMDS hub transmitter is an important factor in its New York City system architecture. Further, CellularVision notes the proposed European 40 GHz system is acknowledged to be line-of-sight only. CellularVision concludes that a 40 GHz LMDS system would require double the number of transmitter hub stations, feeder network components and repeaters as a 28 GHz system.[2] In commenting on this problem, Hughes Communications Galaxy, Inc. notes, without citation or attribution: "Moreover, at either 28 or 40 GHz, only a comparatively small percentage of radio receivers that do not have a direct line-of-sight to the transmitter will be able to take advantage of reflection and diffraction effects".[3] Based on this assumption, it is easy to see why Hughes would minimize the reflectivity problem at 40 GHz.

In its comments, The National Aeronautics and Space Administration notes that it did actual laboratory tests on reflectivity to determine the effect on shifting from 28 GHz to 40 GHz. However, these tests were conducted at a distance of ten (10) feet from the reflective surface to the transmitter and receiver units and hardly mirror field conditions.[4]

In connection with equipment purchases, CellularVision has estimated that the power transmitter for a 40 GHz system will be double the cost of a 28 GHz system [5]. This is based on CellularVision's experience with the New York City system in negotiating actual equipment purchases. After reviewing the equipment modification to a 28 GHz system that would be needed if LMDS is authorized in the 40

---

[2] Comments of CellularVision, Appendix 2, Page 9.

[3] Comments of Hughes Communications Galaxy, Inc., ET Docket 94-124, January 30, 1995, Page 5. ("Hughes Comments").

[4] Comments of the National Aeronautics and Space Administration, ET Docket No. 94-124, January 30, 1995, Page 7.

[5] CellularVision Comments, Appendix 2, Page 6.

GHz band, Teledesic Corporation concludes: "LMDS equipment will be manufactured in sufficient quantities and priced for mass consumer use regardless of the spectrum authorized for the service". [6] This sweeping generalization appears based on Teledesic's experience that all electronic components will have the same cost, if manufactured in sufficient quantities. Perhaps that is how Teledesic intends to place 800 satellites in Earth orbit.

2. FSS Public Benefits Are Less Than Advertised. Assuming the FSS system envisioned by Teledesic is ultimately constructed, one must question the benefit to the public. In the first instance, the public will have to forgo an innovative communication technology ready for immediate deployment for a system which will take years or decades to deploy. Teledesic advises the payoff will come from a global satellite based broadband network which will tie the communications systems of the world together:

"Outside of the urban areas of the United States and other developed countries, and perhaps a few major cities in the developing world, most of the world including rural and remote portions of the United States will receive affordable access to advanced information services only through a satellite based broadband network".[7]

In the first instance, it is not generally the concern of the American public or the Commission to provide communications services to portions of the world outside the U. S., whether in developed or developing countries. Second, neither Teledesic nor any other FSS commenter has demonstrated any compelling need for FSS in rural portions of the United States. Teledesic's statement that many rural exchanges cannot reliably transmit facsimile or other low rate data traffic is without support, and even if it were the case, the situation could be remedied with a more modest capital expenditure than envisioned by the FSS proponents.[8]

Teledesic's basic argument appears to be that the 28 GHz band should be reserved in the U. S. in order that a global, universal satellite service can be established. However, the FSS proponents have offered no technical reasons why such a universal satellite service could not be operated at different frequencies in different parts of the world. Accordingly, reservation of the 28 GHz band for LMDS in the U. S. would not foreclose FSS from operating at a different frequency in the U. S. Our

---

[6] Comments of Teledesic Corporation, ET Docket No. 94-124, January 30, 1995, Page 17 ("Teledesic Comments").

[7] Teledesic Comments, Page 5.

[8] Teledesic Comments, Page 4.

experience indicates that many countries in the developing and developed portions of the world have or will license LMDS in the 28 GHz band. The concept that the 28 GHz band should be set aside as a world-wide standard for FSS technology appears both unnecessary and unlikely to occur.

Finally, Teledesic disparages LMDS as a "redundant local broadcast technology".[9] This is clearly contrary to the Commission's findings that LMDS will further the Commission's goals of introducing a viable competitor to cable television, and offering innovative services not now available:

"A new source of competition for franchised cable companies, wireless cable companies, and other video service providers furthers our goal of using the disciplines of the marketplace to regulate the price, type, quality and quantity of video services available to the public."[10]

"Suite 12's technology offers the promise for a wide variety of applications that could be tailored to local interests."[11]

3. Redesignation of a Portion of the 28 GHz Band May be an Acceptable Alternative. FSS proponents have characterized this debate as winner-take-all; they believe LMDS proponents will settle for nothing less than a full 2 GHz of spectrum in the 28 GHz band, and they therefore propose allocating them 2 GHz in the 40 GHz band.[12] ComTech does not believe that LMDS is viable in the 40 GHz band, and would prefer the allocation of 1 GHz to LMDS in the 28 GHz band rather than two GHz reservation in the 40 GHz band. If the Commission reserves only 1 GHz to LMDS in the 28 GHz band, it should award only one (1) license per market for LMDS to be commercially viable. If the Commission is concerned with competition among LMDS providers, then another 1 GHz could be allocated to LMDS in the 40 GHz band.

4. Conclusion. Consistent with Congressional intent, the Commission should begin the immediate auction of both the 28 GHz band and the 40 GHz band, allowing both LMDS and FSS interests to bid in such auctions. The competing commercial interests will be reflected in the market prices at the auctions. If the Commission feels it is necessary to allocate the frequencies among LMDS

---

[9] Teledesic Comments, Page 10

[10] Rulemaking to Amend Part I and Part 21 of the Commissions Rules to Redesignate the 27.5-29.5 GHz Frequency Band and to Establish Rules and Policies for Local Multipoint Distribution Service, 8 FCC Rec 557 (1993), Page 6 ("First NPRM").

[11] See, First NPRM, Page 7.

[12] See Hughes Comments, Page (i).

and FSS, at least 1 GHz of spectrum should be reserved for a single LMDS license per market in the 28 GHz band.

Respectfully submitted,

COMTECH ASSOCIATES, INC.

By: _____

Richard S. Wilensky
Middleberg, Riddle & Gianna
214/220-6334

Its Attorney

February 28, 1995